



In females with endometriosis, are medications that affect GnRH more effective at treatment of pain than oral contraceptives or NSAIDs?

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Abstract

Endometriosis is a chronic gynecological condition that can cause dysmenorrhea, pelvic pain, and dyspareunia. Standard treatments, including both pharmacologic therapy and surgery, can often fail and patients still feel endometriosis related pain. Newer pharmacologic agents (elagolix) that affect the gonadotropin releasing hormone (GnRH) receptors have been developed specifically to treat endometriosis associated symptoms. The purpose of this paper was to compare the efficacy of these new medications to the already established efficacy of oral contraceptive pills and NSAIDs.



Introduction

Endometriosis is a gynecological condition that affects females of reproductive age, and 50% of women with infertility. This condition is characterized by growth of endometrial-like tissue outside of the uterus, and can cause dysmenorrhea, pelvic pain, and dyspareunia. The standard first line medications include oral contraceptive pills—which aim to suppress ovulation and menses—used in combination with NSAIDs. If pharmacological therapy fails and patients still experience pain, surgical intervention is often necessary. However, many patients still experience pain regardless of these therapies, so it is important to explore other treatment options. Newer pharmacologic agents that affect the gonadotropin releasing hormone (GnRH) receptors have been developed specifically to treat endometriosis associated symptoms. **Thus, this paper poses the following question: in females with endometriosis [P], are medications that affect GnRH receptors [I] more effective at treatment of pain [O] than oral contraceptives or NSAIDs [C]?**

Methods

A literature search was conducted through the Pennsylvania State University Libraries and PubMed in November 2019. After this search five articles were chosen based on their relevance to the PICO question, year of publication, study design, and outcome measurements. The results of these articles were then compared.

Results

Of the five studies analyzed in this paper, only one study directly compared the use of GnRH medications to oral contraceptive pills. Two studies compared GnRH medications to placebo, one compared oral contraceptive pills to NSAIDs, and one looked at the long-term effects of GnRH medications. While the focus of each article was different, all evaluated at least one of the following outcomes: improvement in dysmenorrhea, non-menstrual pelvic pain, or dyspareunia. The results indicate that GnRH medications do improve endometriosis related pain, but the benefit over OCPs was not statistically significant.

Table 2. Summary of Results

Study	Improvement in Dysmenorrhea	Improvement in Non-Menstrual Pelvic Pain	Improvement in Dyspareunia
Carr et al	S	S	NS
Taylor et al	S	S	S
Diamond et al	S	NS	S
Grandi et al	S	S	S
Gallagher et al	NS	NA	NA

Key: S = statistically significant; NS = non-significant; NA = not applicable (the study did not measure this value)

Discussion

Positive results were found for the intervention being looked at in each article, however they showed no significant difference between GnRH medications and OCPs. The blinding, timeline, and follow up were found to be “adequate” for the majority of the articles, while potential biases were found to be “moderate” for the majority of the articles. In order to better compare and evaluate these medications, further research should focus on:

Future Research

- Direct comparison of GnRH medications, OCPs, and NSAIDs
- Longer study length
- Less potential for observer bias

Conclusion

The studies looking at GnRH medications had **positive** results—all **indicated that they reduce endometriosis related pain**. However, one study does not show benefit of these medications over OCPs—it indicated that both had comparable efficacy in treating endometriosis related pain. Another study showed negative long-term health effects of these medications.

The results from these studies as a whole do not seem to support the use of GnRH medications over OCPs, and the risks do not seem to outweigh the benefits.

There is not enough evidence to support the use of GnRH medications over the traditional therapy of OCPs. For clinical practice this means that OCPs may currently remain the best therapy for endometriosis. Despite this, the evidence surrounding GnRH medications is promising, and more research in this area could further reveal its efficacy and safety. If clinicians should choose to prescribe these medications, they should weigh the risks and benefits on a case by case basis, since different patients can respond differently. Going forward, clinicians should try to stay up to date on this ongoing body of research to remain knowledgeable of the role of GnRH medications in the treatment of endometriosis related pain.

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